

## CLAIMS

What is Claimed, is:

1. A management server of a distributed node system comprising:
  - 5 a table manager adapted to load a first table comprising for ones of a plurality of node identifiers: a location identifier, a hardware identifier, and configuration parameters;
  - a node location manager adapted to detect a new hardware identifier for a location identifier and to send a modification message to the table manager, said
  - 10 modification message comprising the new hardware identifier for a location identifier, the table manager being adapted to update the first table responsive to said modification message; and
  - a client manager adapted to generate at least a second table in a client server according to the first table and to update said second table when the first
  - 15 table is updated.
2. The management server of Claim 1, wherein the node location manager is operative in a dynamic node location mode.
- 20 3. The management server of Claim 1, wherein the node identifier comprises a number different for each node of the distributed node system.

4. The management server of Claim 1, wherein, in a static node location mode, the location identifier comprises an Internet Protocol.

5. The management server of Claim 1, wherein, in a dynamic node location mode, the location identifier comprises a port number, a node being attached to the corresponding port, and an Internet Protocol address.

6. The management server of Claim 1, wherein the hardware identifier comprises the Ethernet address of a node in the distributed node system.

7. The management server of Claim 1, wherein, in a dynamic node location mode and nodes being attached to ports of a switch in the distributed node system, the node location manager is further adapted, at initialization time, to request port status for port numbers and to retrieve port status indication for said port numbers.

8. The management server of Claim 1, wherein, in the dynamic node location mode and nodes being attached to ports of a switch in the distributed node system, the node location manager is further adapted to receive a message comprising a modified port status indication.

9. The management server of Claim 7, wherein, responsive to port status meeting a given condition, the node location manager is further adapted to retrieve a hardware identifier of a node connected to a port having said given condition.

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10. The management server of claim 9, wherein the given condition comprises port status of "up" and indicates that the hardware identifier of the node connected to said port is known.

10 11. The management server of Claim 1, wherein the node location manager is substantially compliant with the SNMP protocol and is further adapted to establish a connection with an agent of the switch that is substantially compliant with the SNMP protocol.

15 12. The management server of Claim 1, wherein the client server comprises a server substantially compliant with the DHCP protocol.

13. The management server of Claim 1, wherein the client manager is further adapted to generate the Internet Protocol address of nodes using the network  
20 Internet Protocol address and to generate at least the second table using the Internet Protocol address of the nodes, the corresponding hardware identifier of the first table and the configuration parameters.

14. The management server of Claim 1, wherein the hardware identifier is a slot identifier configured at initialization time.

5 15. A method of node location management in a distributed node system comprising:

a) loading a first table comprising for ones of a plurality of node identifiers: a location identifier, a hardware identifier, and configuration parameters;

b) detecting a new hardware identifier for a location identifier;

10 c) updating the first table responsive to the new hardware identifier for the location identifier; and

d) generating at least a second table in a client server according to the first table and updating said second table when the first table is updated.

15 16. The method of Claim 15, wherein said b) and c) are operative in a dynamic node location mode.

17. The method of Claim 15, wherein the node identifier of said a) comprises a number different for each node of the distributed node system.

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18. The method of Claim 15, wherein, in a static node location mode, the location identifier comprises an Internet Protocol address.

19. The method of anyone of Claim 15, wherein, in a dynamic node location mode, the location identifier comprises a port number, a node being attached to the corresponding port, and an Internet Protocol address.

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20. The method Claim 15, wherein the hardware identifier comprises the Ethernet address of a node in the distributed node system.

21. The method of Claim 15, wherein, in a dynamic node location mode and  
10 nodes being attached to ports of a switch in the distributed node system, said b) comprises, at initialization time, requesting port status for port numbers and receiving port status indication for said port numbers.

22. The method of Claim 15, wherein, in a dynamic node location mode and  
15 nodes being attached to ports of a switch in the distributed node system, said b) comprises receiving a message comprising a modified port status indication.

23. The method of anyone of Claim 21, wherein said b) further comprises:  
b1) responsive to ones of said port status meeting a given condition,  
20 retrieving a hardware identifier of a node connected to ports having said given condition.

24. The method of Claim 23, wherein the given condition of said b1) comprises that the port status is "up" and indicates that the hardware identifier is known.

5 25. The method of Claim 15, wherein said b) comprises establishing a connection with an agent of a switch in said distributed node system in a manner that is substantially compliant with the SNMP protocol.

26. The method of Claim 15, wherein the client server of said d) comprises a  
10 server that is substantially compliant with the DHCP protocol.

27. The method of Claim 15, wherein said d) comprises generating the Internet Protocol address of nodes in said distributed node system using the network Internet Protocol address and generating at least the second table using  
15 the Internet Protocol address of the nodes, the corresponding hardware identifier of the first table and the configuration parameters.

28. The method of claim 15, wherein the hardware identifier is a slot identifier configured at initialization time.

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29. A computer readable medium having stored therein instructions which when executed on a computer readable medium implement a method of node location management in a distributed node system, said method comprising:

- a) loading a first table comprising for ones of a plurality of node identifiers:
  - 5 a location identifier, a hardware identifier, and configuration parameters;
  - b) detecting a new hardware identifier for a location identifier;
  - c) updating the first table responsive to the new hardware identifier for a location identifier; and
  - d) generating at least a second table in a client server according to the
- 10 first table and updating said second table when the first table is updated.

30. The computer readable medium of Claim 29, wherein said b) and c) of said method are operative in a dynamic node location mode.

- 15 31. The computer readable medium of Claim 29, wherein the node identifier of said a) of said method comprises a number different for each node of the distributed node system.

- 32. The computer readable medium of Claim 29, wherein, in a static node
- 20 location mode, the location identifier comprises an Internet Protocol address.

33. The computer readable medium of Claim 29, wherein, in a dynamic node location mode, the location identifier comprises a port number, a node being attached to the corresponding port, and an Internet Protocol address.

5 34. The computer readable medium of Claim 29, wherein the hardware identifier comprises the Ethernet address of the node in the distributed node system.

35. The computer readable medium of Claim 29, wherein, in a dynamic node  
10 location mode and nodes being attached to ports of a switch in the distributed node system, said b) of said method comprises, at initialization time, requesting port status for port numbers and receiving port status indication for said port numbers.

15 36. The computer readable medium of Claim 29, wherein, in a dynamic node location mode and nodes being attached to ports of a switch in the distributed node system, said b) of said method comprises receiving a message comprising a modified port status indication.

20 37. The computer readable medium of Claim 35, wherein said b) of said method comprises:



b1) responsive to ones of said port status meeting a given condition, retrieving a hardware identifier of the node connected to ports having said given condition.

5 38. The computer readable medium of Claim 37, wherein the given condition of said b1) of said method comprises that the port status is "up" and indicates that the hardware identifier is known.

39. The computer readable medium of Claim 29, wherein said b) of said  
10 method comprises establishing a connection with an agent of a switch in said distributed node system in a manner that is substantially compliant with the SNMP protocol.

40. The computer readable medium of Claim 29, wherein the client server of  
15 said d) of said method comprises a server that is substantially compliant with the DHCP protocol.

41. The computer readable medium of Claim 29, wherein said d) of said  
method comprises generating the Internet Protocol address of nodes in said  
20 distributed node system using the network Internet Protocol address and generating at least the second table using the Internet Protocol address of the

nodes, the corresponding hardware identifier of the first table and the configuration parameters.

42. The computer readable medium of Claim 29, wherein the hardware

5 identifier is a slot identifier configured at initialization time.